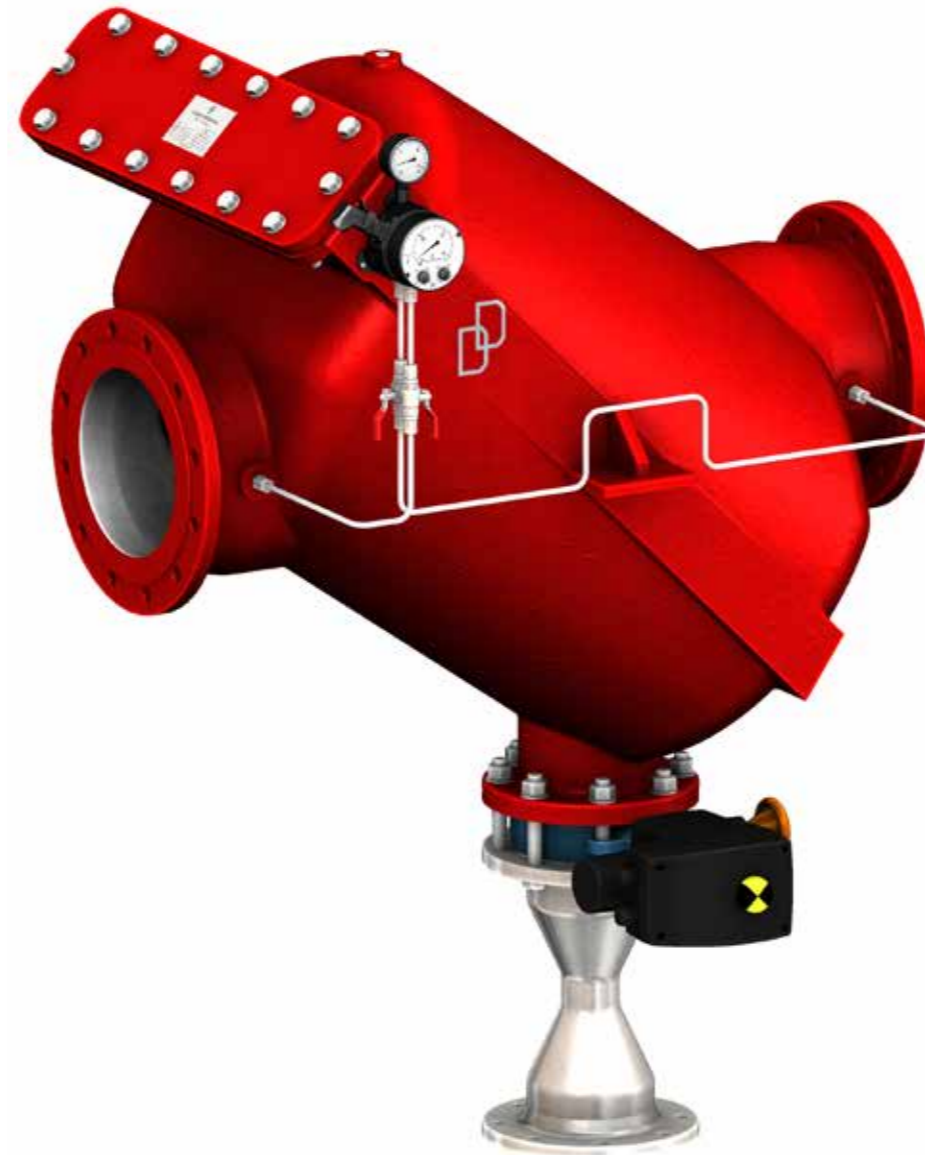


# PLATE FILTER

MASSIVE INLINE FILTER FOR COARSE FILTRATION



**DANGO & DIENENTHAL**  
BETTER VALUES.

EN

# PLATE FILTER (PLF)

## MASSIVE INLINE FILTER FOR COARSE FILTRATION

The plate filter is a massive inline filter with an inclined filter plate. This type of filter allows both manual and automatic backwashing.

### FILTER HOUSING

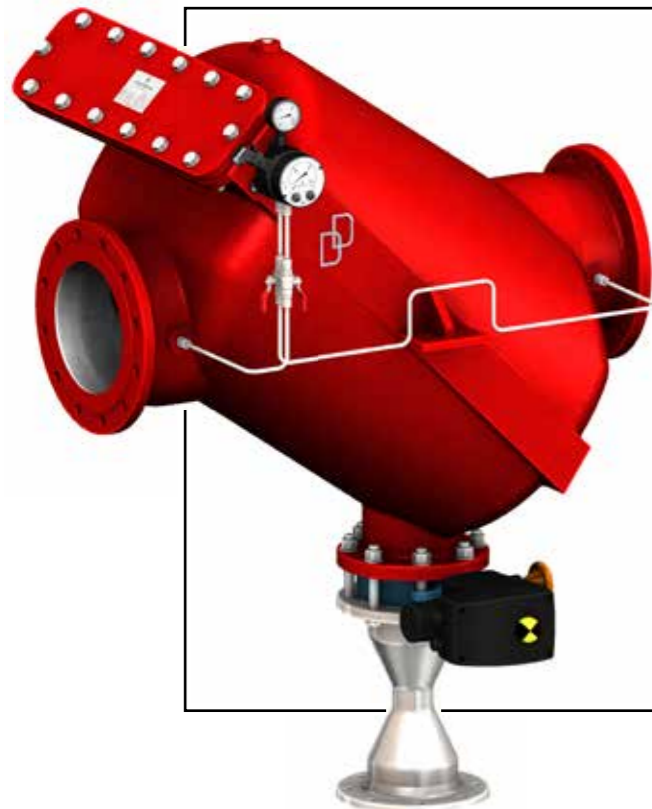
Standard design	<b>Cast iron</b>
Seawater-resistant design	<b>GRP</b>
Special design	<b>Steel/ stainless steel</b>

Special designs possible for filter housings and technical specifications. Feel free to contact us! We are happy to advise you.

### TECHNICAL DATA

Flow rate	<b>Max. 2,500 m<sup>3</sup>/h</b>
Filter fineness	<b>≥ 500 µm</b>
Operating pressure	<b>1.5 to 25 bar</b>
Pressure loss with clean filter	<b>0.1 to 0.3 bar</b>
Flanges	<b>DN 80 to 500</b>
Temperature	<b>0 to +110 °C</b>
Automatic cleaning	<b>Yes</b>
Inline design	<b>Yes</b>

## ADVANTAGES



- ⊙ Storage space for separated solids
- ⊙ Quick removal of the filter element
- ⊙ Easy installation (inline design)
- ⊙ Low wear and tear (no moving parts in the filter)
- ⊙ Installation possible on suction side of pump
- ⊙ Diversity of materials
- ⊙ Completely wired and tested unit
- ⊙ Special design solutions for special customer requirements
- ⊙ Manual and automatic cleaning possible

## OUR FILTERS IN ACTION



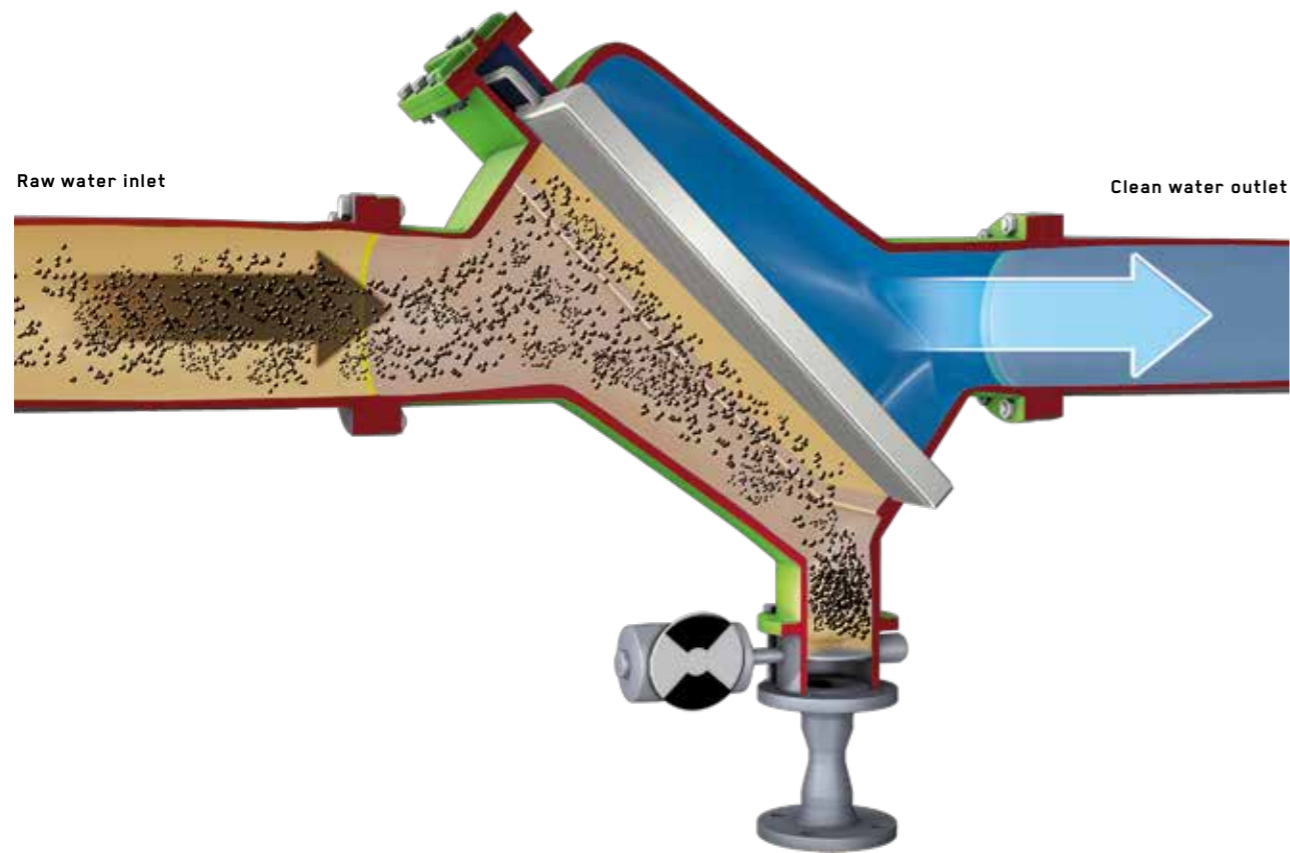
### OUR FILTER SYSTEMS PROTECT

- ⊙ Plate heat exchangers
- ⊙ Spray nozzles
- ⊙ Piping systems
- ⊙ Mechanical seals
- ⊙ Pumps
- ⊙ Microfiltration systems
- ⊙ The environment
- ⊙ Final products

### THE NEW DEFINITION OF PURITY FOR YOUR MEDIUM

- ⊙ Cooling water
- ⊙ River water
- ⊙ Seawater & ballast water
- ⊙ Sinter & scale water
- ⊙ Process water
- ⊙ Oils & emulsions
- ⊙ Mussels & mussel larvae infested waters
- ⊙ Drinking water
- ⊙ Effluent water

# FILTRATION

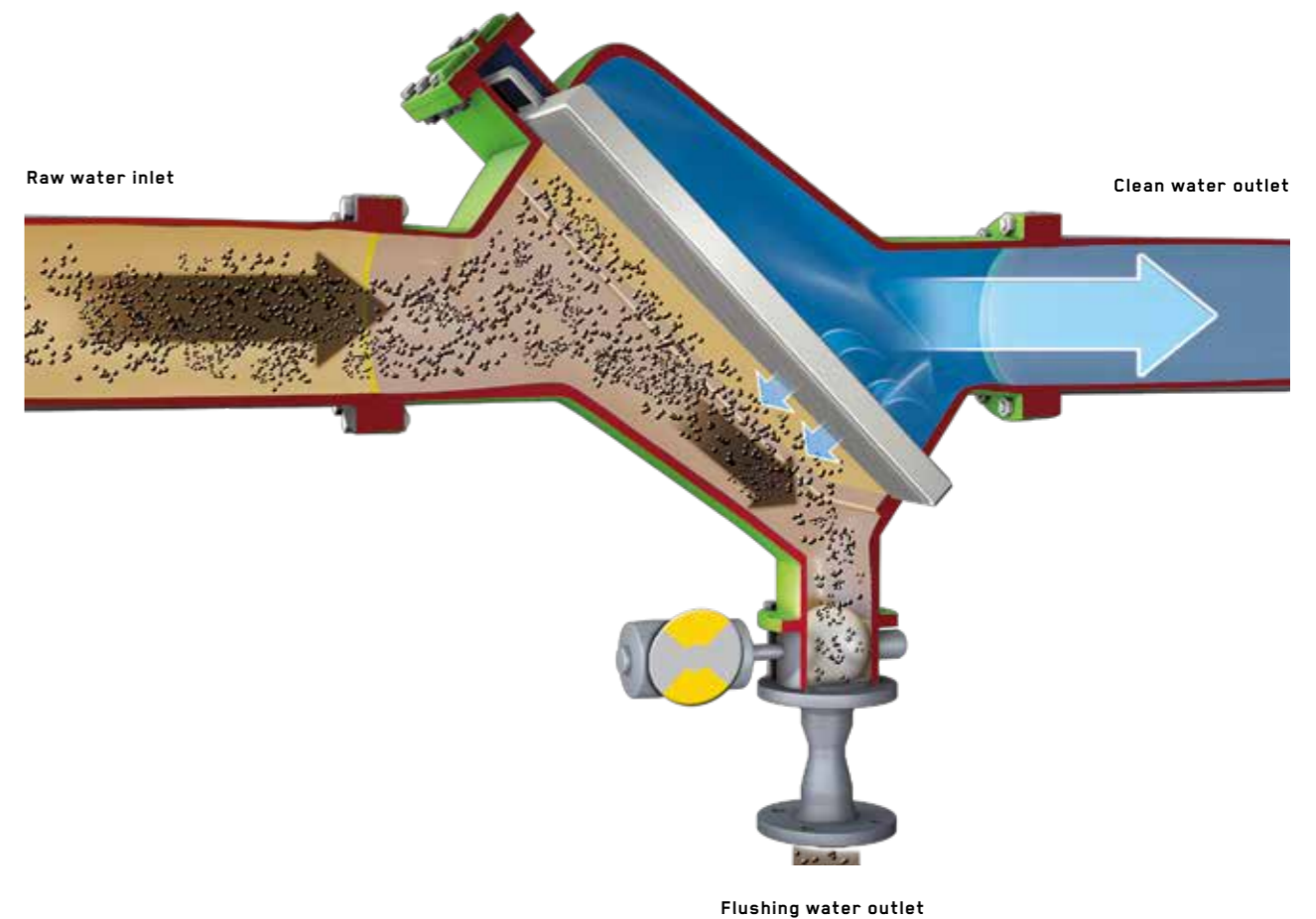


The raw water enters the filter via the inlet flange, flows through the filter element, and leaves the filter on the clean water side.

Dirt particles that are larger than the selected filter fineness are retained. The water velocity in

the filter housing and the inclined filter element convey the dirt particles to the lower dirt collection area.

# BACKWASH PROCESS

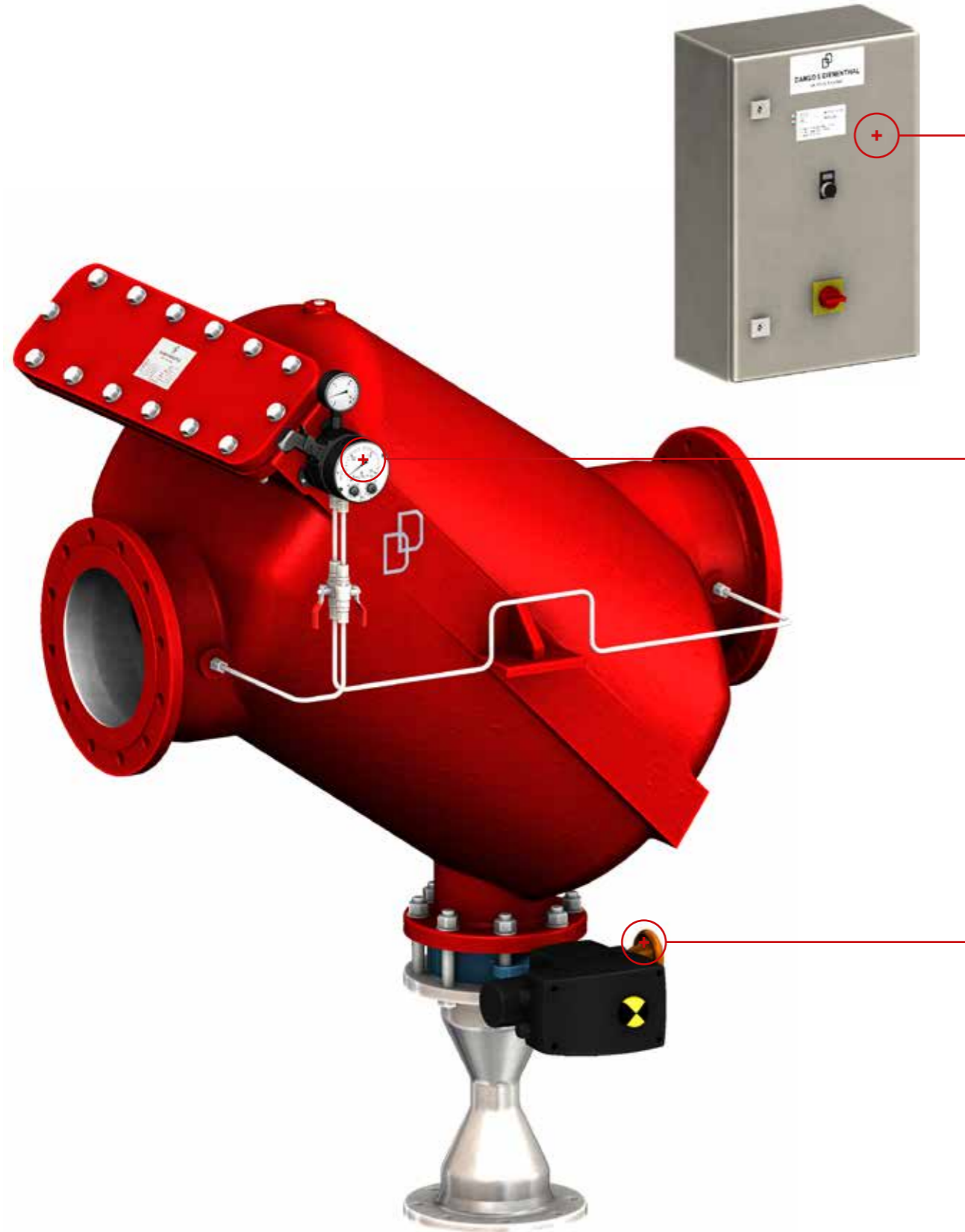


A differential pressure measurement is made between the raw water inlet and clean water outlet to determine the degree of contamination of the filter element. The backwash process is activated at a defined differential pressure. In addition, an adjustable time relay in the electrical control system enables the backwash process. At the start of filter cleaning, the motor-driven backwash valve opens. Due to the high flow velocity generated during backwashing, the dirt particles in the dirt collection area are flushed out of the filter.

A vacuum is created in front of the filter element in accordance with Bernoulli's Law. This causes clean water to flow through the filter element in the direction opposite to that of filtration. In the process, the dirt particles trapped there are removed via the flushing water outlet.

The backwash process is complete after 10-20 seconds, after which the backwash valve is closed automatically. Filtration is not interrupted during backwashing.

# FILTER COMPONENTS



## ELECTRICAL CONTROL SYSTEM

The backwash process is initiated depending on time and/or differential pressure, thereby enabling fully automatic filter operation.

The standard control system includes the following signal exchange with the customer process control system (PCS):

- ⊕ Collective fault
- ⊕ Ready for operation
- ⊕ Filter in flushing mode
- ⊕ External triggering of filter backwash
- ⊕ External release of filter backwash



## DIFFERENTIAL PRESSURE MEASUREMENT

Consisting of:

- ⊕ Optical display of the operating pressure upstream of the filter
- ⊕ Optical display of the differential pressure
- ⊕ Two freely adjustable switching contacts
- ⊕ Start of filter flushing
- ⊕ Alarm message

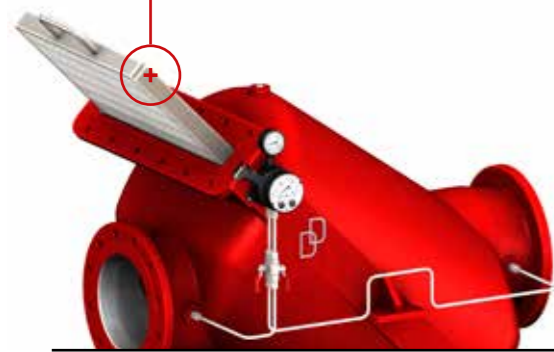
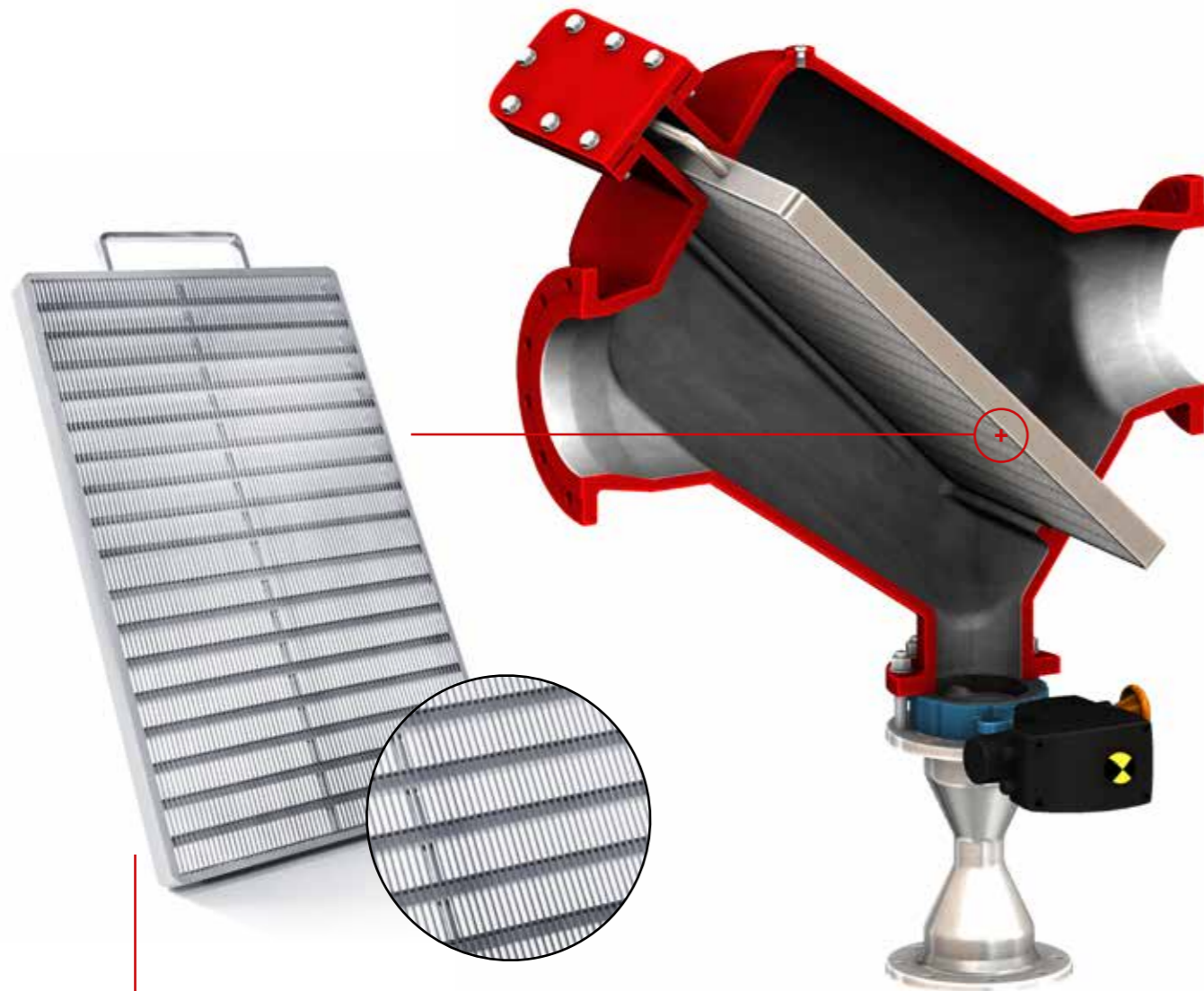


## VENTURI NOZZLE WITH BACKWASH VALVE

The Venturi nozzle is designed to suit the customer's operating conditions to adjust the required flushing water quantity and to prevent pressure fluctuations in the pipe network. The backwash valve is equipped with an electric or pneumatic actuator as standard.



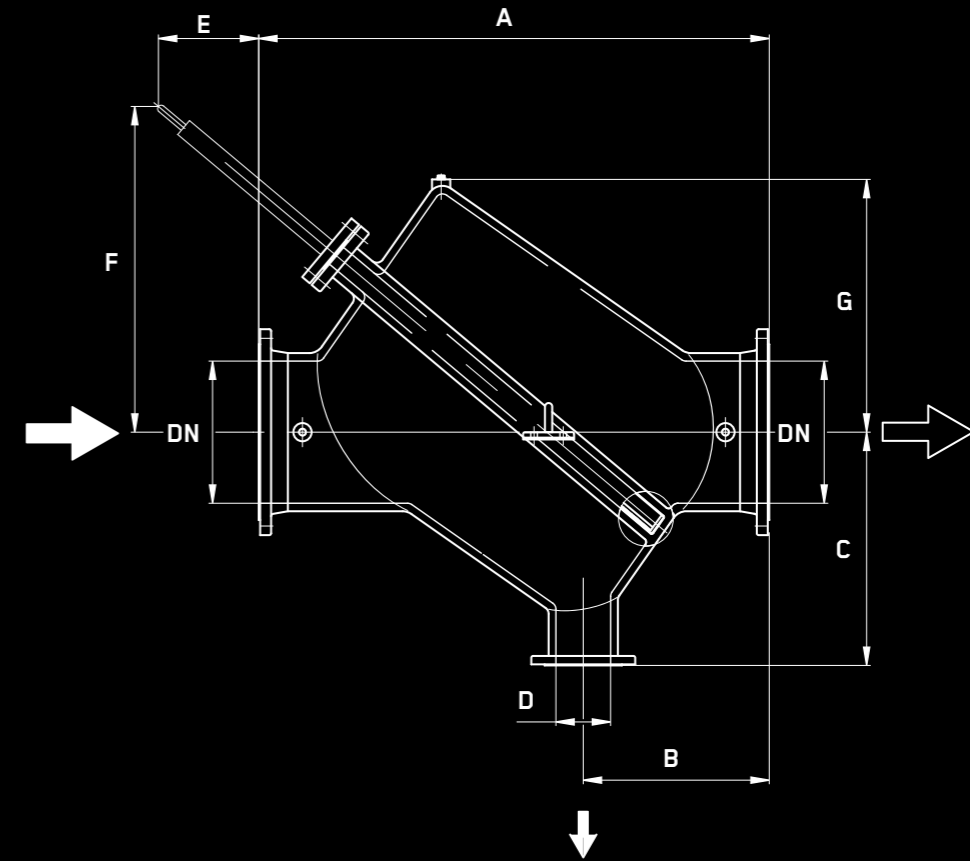
# FILTER ELEMENT



## THE FILTER ELEMENT

The filter element consists of a reinforced wedge-wire screen construction so that it can withstand even high differential pressures. The handle allows the filter element to be easily and quickly pulled out of the filter housing for inspections.

The filter element can be designed in different stainless steel grades.



TYPE / DN	DIMENSIONS IN MM							WEIGHT IN KG
	A	B	C	D	E	F	G	
80	1,000	380	380	80	520	830	430	190
100	1,000	380	380	80	520	830	430	220
150	900	330	380	100	520	830	430	240
200	900	330	380	100	520	830	430	250
250	1,100	400	550	150	720	1,130	510	565
300	1,100	400	550	150	720	1,130	510	600
400	1,400	510	640	150	880	1,230	690	840
500	1,400	510	640	150	880	1,230	690	920

## FILTER SIZE

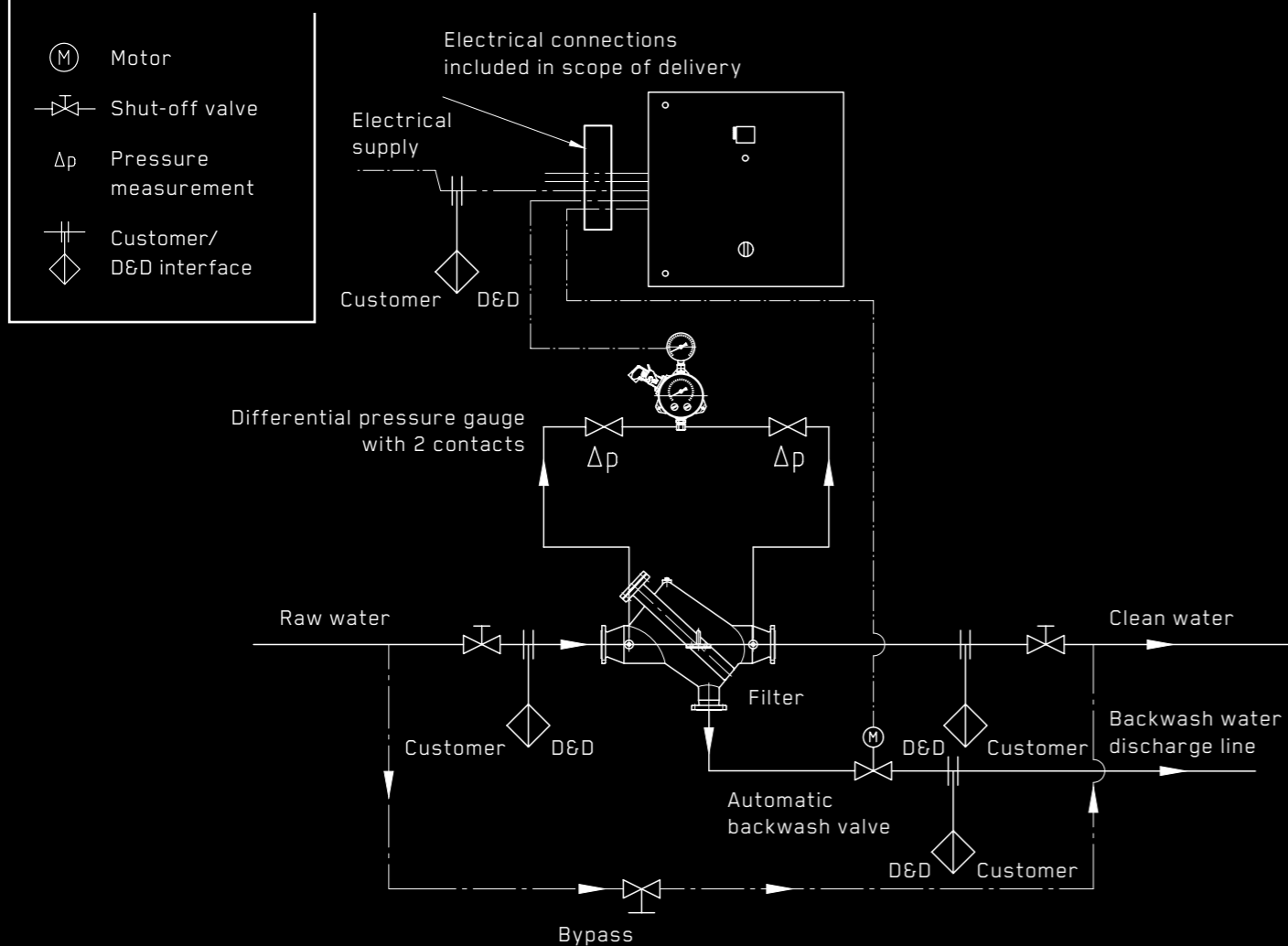
The filter size depends on the throughput capacity, the filter fineness, the acceptable pressure drop, and the degree of contamination of the raw water.

## NOW IT'S UP TO YOU

To prepare an offer, we request that you complete the filter project questionnaire and send it to us by e-mail. You can find this at:

[www.dds-filter.com/en/downloads/](http://www.dds-filter.com/en/downloads/)

## PROCESS DIAGRAM



# SHAPE BETTER VALUES

CLOSER. BETTER. SIMPLER.

We make sure that you get the filter that is perfectly suited to your application. Our engineering office will design the filter to match your operating parameters. This allows us to adapt our product to your specific use.



### EXPERIENCED PARTNER

All DANGO & DIENENTHAL filters are handled by our specially qualified and regularly trained staff. Both our mechanical production and assembly departments have extensive expertise.



### CERTIFIED TESTING

Our certified quality management system enables seamless monitoring and control of all production steps. This ensures early detection and troubleshooting, allowing us to offer you a high level of quality.



### THE TEAM AT YOUR SIDE

If you require staff for training or maintenance at your company, don't hesitate to contact us. Our specially qualified employees will be happy to assist you.



### IDEAL PRODUCTION CONDITIONS

We have been producing filters in our factory in Siegen, Germany, since 1941. Our continuously improved, state-of-the-art range of machinery and modern factory buildings provide an environment that is essential for manufacturing high-quality products.

# TECHNICAL INFORMATION

## SCOPE OF DELIVERY

- ⊙ 230 V or 400 V voltage
- ⊙ 110 V to 690 V voltage\*
- ⊙ Pressure Equipment Directive (PED)
- ⊙ ASME\*
- ⊙ Explosion protection\*
- ⊙ Differential pressure measurement
- ⊙ Differential pressure as 4-20 mA signal\*
- ⊙ Automatic filter control system
- ⊙ Backwash with own medium
- ⊙ Backwash with suction pump\*
- ⊙ Electrical or pneumatic flushing valve
- ⊙ Signal exchange with PCS
- ⊙ Cabling including plug
- ⊙ Documentation
- ⊙ Certificates\*
- ⊙ Function test at the manufacturer's factory

\* Available at extra cost

## WE ARE HERE TO ASSIST YOU

+49 271 401 4123

Or by e-mail: [post@dds-filter.com](mailto:post@dds-filter.com)

Monday-Friday:

You can find us at the following address:

8:00 a.m. - 4:00 p.m. (CET)

Hagener Str. 103

(except for holidays)

57072 Siegen, Germany



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